

## Appendix G3

### Site-Specific COPC Screen for Soil Gas at the Willow/Hawthorne Former MGP Site

Vapor intrusion (VI) contaminants of potential concern (COPC) for sites within the Integrys Multi-Site program can be found in *Initial Vapor Intrusion Screen for Integrys MGP Sites* (Integrys 2010, Appendix G2). For the Willow/Hawthorne Operable Unit (OU), a supplemental screening assessment has been performed to address USEPA concerns regarding the potential presence of additional VI COPCs that are not on the standard VI COPC list for Integrys sites and determine if any constituents should be added on a site-specific basis. This assessment considers the results of previous on-site soil and groundwater sampling.

The supplemental VI COPC assessment was performed using the following screening techniques:

- Identifying analytes detected in site soil and groundwater that are not on the Multi-Site MGP COPC list; and
- Determining if these additional analytes are sufficiently volatile and toxic to be considered a soil gas COPC. The methods used to evaluate volatility and toxicity are outlined in *Initial Vapor Intrusion Screen for Integrys MGP Sites* (Appendix G2).

The results of this assessment are found on Table G3-1. In addition to the COPCs identified in the *Initial Vapor Intrusion Screen for Integrys MGP Sites* (Appendix G2), eight additional compounds will be carried forward as VI COPCs for soil gas analysis because they were detected in site soil and/or groundwater and are sufficiently volatile and toxic. These additional analytes are:

- 1,1,1-Trichloroethane
- 1,1-Dichloroethane
- Acetone
- Carbon disulfide
- Methyl ethyl ketone (MEK)
- Methylene chloride
- Styrene
- Tetrachloroethene

Finally, because tetrachloroethene has been identified as a VI COPC for soil gas, its degradation products (i.e., cis- and trans-dichloroethene and vinyl chloride) will also be considered site-specific VI COPCs for soil gas.

The final VI COPC list for soil gas is presented on Table G3-2.

## **References**

Exponent, 2010, "Initial Vapor Intrusion Screen for Integrys MGP Sites," prepared for the South Station Former MGP Site, Chicago, Illinois.

Attachments: Table G3-1 – Site-Specific Screen for Soil Gas COPCs  
Table G3-2 - COPCs for Soil and Groundwater

**Table G3-1 – Site-Specific Screen for Soil Gas COPCs**

Willow/Hawthorne Former MGP Site

Site-Specific Work Plan

Analyte Detected On Site in Previous Sampling	Criterion 1: Sufficiently Volatile	Criterion 1: Sufficiently Toxic	VI COPC
1,1,1-Trichloroethane	YES	YES	X
1,1-Dichloroethane	YES	YES	X
Acetone	YES	YES	X
Benzoic acid	NO	---	
Bis(2-ethylhexyl)phthalate	NO	---	
Carbazole	NO	---	
Carbon disulfide	YES	YES	X
Dibenzofuran	NO	---	
cis-Dichloroethene <sup>a</sup>	YES	YES	X
trans-Dichloroethene <sup>a</sup>	YES	YES	X
Diethyl phthalate	NO	---	
Methyl ethyl ketone (MEK)	YES	YES	X
Methylene chloride	YES	YES	X
PCB-1242	NO	---	
PCB-1248	NO	---	
PCB-1254	NO	---	
PCB-1260	NO	---	
PCBs, Total	NO	---	
Pentachlorophenol	NO	---	
Styrene	YES	YES	X
Tetrachloroethene	YES	YES	X
Vinyl chloride <sup>a</sup>	YES	YES	X

**NOTES:**

On this list are compounds (not including metals) detected in site soil and/or groundwater that are not already screened for in the generic Vapor Intrusion Screen of Integrys MGP Sites.

<sup>a</sup> Added to list because they are degradation products of tetrachloroethene.

--- - Analyte fails criteria 1 (is the compound sufficiently volatile), therefore criteria 2 is not applicable.

PCB - Polychlorinated biphenyl

VI COPC - Vapor intrusion contaminant of potential concern

**Table G3-2 – COPCs for Soil Gas**  
Willow/Hawthorne Former MGP Site  
Site-Specific Work Plan

<b>Type of COPC</b>	<b>Analyte</b>
Integrays Sites <sup>a</sup>	Benzene
Integrays Sites <sup>a</sup>	Ethylbenzene
Integrays Sites <sup>a</sup>	Toluene
Integrays Sites <sup>a</sup>	Xylenes (total)
Integrays Sites <sup>a</sup>	1,2,4-Trimethylbenzene
Integrays Sites <sup>a</sup>	Naphthalene
Site-specific <sup>b</sup>	1,1,1-Trichloroethane
Site-specific <sup>b</sup>	1,1-Dichloroethane
Site-specific <sup>b</sup>	Acetone
Site-specific <sup>b</sup>	Carbon disulfide
Site-specific <sup>b</sup>	cis-Dichloroethene
Site-specific <sup>b</sup>	trans- Dichloroethene
Site-specific <sup>b</sup>	Methyl ethyl ketone
Site-specific <sup>b</sup>	Methylene chloride
Site-specific <sup>b</sup>	Styrene
Site-specific <sup>b</sup>	Tetrachloroethene
Site-specific <sup>b</sup>	Vinyl chloride

NOTES:

<sup>a</sup> COPC selected because it was screened in for Integrays sites in the Initial Vapor Intrusion Screen for Integrays MGP Sites.

<sup>b</sup> COPC selected because it was screened through a site-specific evaluation for the Willow/Hawthorne Former MGP Site.

COPC - Contaminant of potential concern

MGP - Manufactured gas plant